REMARKS

The Office Action dated March 30, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto. Claims 29-67 are currently pending in the application.

Claim 55 has been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added. Claims 29-67 are respectfully submitted for consideration.

The Office Action rejected claims 29-67 under 35 U.S.C. §103(a) as being unpatentable over Hanson (U.S. Patent No. 6,023,624) in view of Kallin (U.S. Patent No. 6,058,308). The Office Action took the position that Hanson discloses all of the elements of the claims, with the exception of providing, as the current location, the last known location if the time is within the threshold limit. The Office Action then cited Kallin as allegedly curing this deficiency in Hanson. The rejection is respectfully traversed for at least the following reasons.

Claim 29, upon which claims 30-40 are dependent recites a method including receiving a request for a current location of a mobile station in a mobile communication system, determining a time at which a last known location of the mobile station was determined, comparing the time to a threshold time limit and, in response to the comparing, providing, as the current location, the last known location if the time is within the threshold time limit.

Claim 41 recites a method including receiving at a network element a request from an application for a current location of a mobile station in a mobile communication system, determining, at the network element, a time at which a last known location of the mobile station was determined, comparing, at the network element, the time to a threshold time limit, and, in response to the comparing, providing to the application, as the current location, the last known location if the time is within the threshold time limit.

Claim 42, upon which claims 43-52 are dependent, recites a network element including means for receiving a request for a current location of a mobile station in a mobile communication system, means for determining a time at which a last known location of the mobile station was determined, means for comparing the time to a threshold time limit, and means for providing, as the current location, in response to the comparing, the last known location if the time is within the threshold time limit.

Claim 53, upon which claims 54-56 are dependent, recites a mobile communication system including an application configured to provide location dependent services and to generate a location request for a user equipment, a network element configured to receive the request for a current' location of a mobile station, a network element configured to determine a time at which a last known location of the mobile station was determined and to compare the time to a threshold time limit, and a network element configured to provide, as the current location, in response to the comparing, the last known location if the time is within the threshold time limit.

As will be discussed below, the cited prior art fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Hanson discloses a system for paging mobile telephone units (MTU) in a cellular mobile system that conserves paging resources. If the identity of the most recent cell in which the MTU was located matches the identity of the cell wherein the MTU was located on the previous registration, then an initial page covering only the cell of the most recent call location for the target MTU, and the neighboring cells for that cell, is used.

Kallin discloses a method for adaptively selecting a paging area throughout which a mobile terminal is paged. A record is maintained which indicates the position where the mobile terminal was located when last accessing the network. When a page is to broadcast to the mobile terminal, the record is accessed and the page is broadcast to selected parts of the network based on the record.

Applicants respectfully submit that Hanson and Kallin, whether considered alone or in combination, fail to disclose or suggest all of the elements of the claimed invention. For example, the combination of Hanson and Kallin does not disclose or suggest "comparing the time to a threshold time limit; and in response to the comparing, providing, as the current location, the last known location if the time is within the threshold time limit," as recited in claim 29, and similarly recited in claims 41, 42, and 53.

Hanson is only directed to determining the size of a paging area. According to Hanson, if the current time minus the most recent registration time is greater than a fourth

threshold time value, then flood paging of all MSCs is carried out. If the current time minus the most recent registration time is greater than the third threshold time value then the page is directed to the MSC. If the current time minus the most recent registration time is greater than the second threshold time value, then either the sub-MSC registration zone is paged or the page is directed to the MSC. Finally, if the current time minus the most recent registration time is greater than the first threshold time value then only the new registration cell and its neighbor are paged (Hanson, Figure 5).

Therefore, Hanson is concerned with determining an area that should be paged. According to Hanson, if a paging is unsuccessful, then paging over a larger area is carried out. Consequently, the different thresholds of Hanson are used simply to define the size of an area over which a page is to be sent. Hanson fails to disclose or suggest that the last known location is provided as the current location if the time is within the threshold time limit. As such, Hanson fails to disclose or suggest all of the elements of the present claims.

Furthermore, Applicants respectfully submit that it would not have been obvious to a person of skill in the art to combine Hanson with Kallin to yield the claimed invention. Kallin, as discussed above, teaches that information indicative of the position at which the mobile terminal was located when it last accessed a base station of the network infrastructure of the communication system is maintained in a record (Kallin, Column 4, lines 13-16). In addition, Figure 11 of Kallin illustrates the steps for paging a mobile terminal. It is clear when reading the teachings of Kallin as a whole, that Kallin

does not "provide" a current location of a mobile station as in the claimed invention. Rather, Kallin merely maintains a record of information indicative of the position when the mobile station last accessed a base station. Kallin is silent regarding the provision of location information.

Thus, the disclosure of Kallin with respect to location information is analogous to that of Hanson as shown in step 503 of Figure 5 (i.e. to find the identification of the cell in which the MTU was most recently found) (Kallin, Column 3, lines 65-67). Indeed, Kallin seeks to achieve a similar solution to that of Hanson (see Kallin, Column 7, lines 55-57). Kallin uses information regarding the last accessed cell by the mobile terminal and if no response is received to the page, then the paging area is increased.

Therefore, Applicants submit that a person of skill in the art would only be motivated to apply the teachings of Kallin regarding maintaining a record of the last accessed cell to the analogous portions of Hanson (i.e. block 503 of Figure 5). As mentioned above, Kallin merely teaches maintaining a record of the cell in which the mobile terminal was located when last accessing a base station. Kallin neither teaches nor suggests providing any more information regarding the mobile terminal than does Hanson.

In any case, Applicants respectfully submit that the record of location information in Kallin is only used at the start of the paging process (Kallin, Figure 11, block 232) before any steps of comparing (Figure 11, block 234) are used to determine whether the size of the paging area should be expanded.

Therefore, any combination of Kallin and Hanson would not result in the features of the claimed invention. Hanson teaches that the step of consulting the subscriber database record 502 occurs before the steps of paging 521, 517 and comparing the time to a threshold time 532, 533, 535, 537. As a result, the combination of Kallin and Hanson would not result in current location information being provided because both references disclose using information regarding the last access cell before any steps of comparing. Thus, the combination of Kallin and Hanson does not disclose or suggest that current location of the mobile station can be provided in response to comparing a time to a threshold time.

Further, Applicants respectfully submit that a person of skill in the art would not have been motivated to modify the teachings of Kallin such that the information regarding the last accessed cell is provided as a result of a comparing step (Kallin, Figure 11, block 234) in the paging process because this information is not required for the paging method. Additionally, there is no reason to provide location information in response to any of the threshold tests (531, 533, 535, 537) in Hanson either, for similar reasons.

Therefore, even if Kallin were considered to provide a current location of a mobile station, which is not admitted, a combination of Kallin and Hanson would not result in the claimed invention because the current location of a mobile station would not be provided in response to a step of comparing the time to a threshold time limit.

In contrast, according to embodiments of the claimed invention, a request for a current location of the MSC is received at the MSC 10. It is then determined a time at which the last known location was determined using data stored in the VLR 12. This time is compared to a threshold time limit in the MSC and, as a result of this comparison, if the time is within the threshold time limit, the last known location is provided as the current location. Examples of the present invention, therefore, provide the last known location of a mobile station as the current location depending on the "freshness" of the location information (see Specification, page 6, lines 22-27). As a result, the radio resources are optimized while the mobile station is in an idle mode unless location requests are issued to the mobile stations. Hanson and Kallin fail to disclose or suggest all of the elements of the claimed invention and, therefore, fail to provide such advantages.

Thus, for at least the reasons discussed above, the combination of Hanson and Kallin does not disclose or suggest "comparing the time to a threshold time limit; and in response to the comparing, providing, as the current location, the last known location if the time is within the threshold time limit," as recited in claim 29, and similarly recited in claims 41, 42, and 53. As such, Applicants respectfully request that the rejection of claims 29, 41, 42, and 53 be withdrawn.

Claims 30-40, 43-52, and 54-56 are dependent upon claims 29, 42, and 53, respectively. Accordingly, claims 30-40, 43-52, and 54-56 should be allowed for at least

their dependence upon claims 29, 42, and 53, and for the specific limitations recited therein.

Applicants respectfully submit that the cited prior art fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 29-67 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Enclosures: Petition for Extension of Time